



SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SUBJ: Autopilot System

SAIB: AIR-22-07

Date: April 6, 2022

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) is to inform owners and operators of aircraft equipped with Avidyne Corporation (Avidyne) DFC90 autopilots coupled with Avidyne primary flight displays (PFDs) and Garmin global positioning system (GPS) and GPS navigation systems (GNS) navigators of a potential uncommanded turn to heading 360 if SBAS, EGNOS, MSAS/QZSS, or GAGAN WAAS reception is lost during an autopilot coupled non-degradable localizer performance with vertical guidance (LPV) approach.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

The anomaly was discovered in simulated flights during student pilot training by Orbify, an ASA IFR training company affiliated with the Federal Aviation Administration (FAA) and European Union Aviation Safety Agency. When performing non-degradable LPV approaches simulating loss of SBAS reception, the Avidyne autopilot made an uncommanded turn to heading 360.

Avidyne investigated and was able to reproduce this anomaly. During the scenario described above, the Avidyne autopilot receives an unexpected output from the GNS navigator. The GNS navigator discontinues approach guidance but continues to indicate that it is in approach mode. GPS roll steering commands are suppressed, and the PFD and autopilot, in combination, revert to the numerical heading value being transmitted, which is 360.

The investigation revealed the affected configurations are Avidyne DFC90 autopilots with software part number (P/N) 510-00874-000 Rev03 or earlier, coupled with Avidyne PFD P/N 700-00006-XXX with software P/N 530-00214-002 Rev06 or earlier, and Garmin GNS430/530W or GTN650/750 navigators.

Avidyne released Service Information Letter (SIL) 606-00170-004, Revision 00, dated December 14, 2021, regarding this issue.

Recommendations

The FAA recommends that all owners and operators of aircraft with affected autopilot, PFD, and navigators review the contents of Avidyne SIL 606-00170-004, Revision 00, dated December 14, 2021, and follow the applicable Recommended User Actions.

For Further Information Contact

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For Related Service Information Contact

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